REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on May 6, 2005, and the references cited therewith. The specification has been amended. Claims 1-34 remain pending in the application, and claims 35 and 36 were added, as a result claims 1-36 are now pending in this application.

Objection to the Drawings

The drawings were objected to because they included reference numbers not mention in the description. The specification, paragraph 35, has been amended to include the reference number, 570, noted in Figure 5 but not included in the specification. The Applicant submits that the objection has been overcome and that the objection should accordingly be withdrawn.

§102 Rejection of the Claims

Claims 1-6, 8-10, 13-25, 27-29 and 31-34 were rejected under 35 USC § 102(b) as being anticipated by *Lyles et al. (U.S. Patent No. 6,377,583).* The Applicant respectfully traverses the rejection.

For a claim to be anticipated under 35 USC § 102, a single reference must disclose each and every element and each and every relationship between elements. The Applicant submits that *Lyles et al.* do not disclose each and every element or each and every relationship of claims 1-6, 8-10, 13-25, 27-29 and 31-34 as suggested by the Examiner for at least the reasons detailed below.

Independent claim 1 is directed to a flow control hub. The hub includes a scoreboard memory device to maintain flow control status for a plurality of flows. Each of the flows is identified by an associated index. An address decoder receives a flow control message and determines the associated index for the flow control message. An updater updates the flow control status in the scoreboard memory device based on the received flow control message. The Applicant submits that *Lyles et al.* do not disclose each and every element and relationship of the hub recited in claim 1. For example, *Lyles et al.* clearly do not disclose a scoreboard memory

device to maintain flow control status or an updater to update the flow control status, as required by claim 1.

Rather, *Lyles et al.* disclose a system by which ATM cells are received and stored (queued) in data memory 27. A fill cell module 51 generates messages that a cell has been added and provides a pointer to the cell. A flow control unit 55 determines whether the cell should be queued for transmission on a data path, control path, or both for rate shaping. The Applicant submits that *Lyles et al.* has nothing to do with flow control messages for controlling the flow of data for specific flows, or flow control hubs to manage the delivery of the flow control messages. The Applicant submits that *Lyles et al.* clearly do not disclose utilizing a scoreboard memory to keep track of the flow control status for specific flows or an updater to update the scoreboard memory based on received flow control messages, as required by claim 1.

On page 3 of the Office Action the Examiner contends that *Lyles et al.* "teaches a device (see Figure 3) having a memory device (see col. 10, lines 51 and 55; Figure 3, '27') and maintains flow control status (see col. 10, lines 60-61) for a plurality of flows". The Applicant submits that this contention is clearly erroneous. The passage at lines 50/51 simply discloses writing a cell (not a status) into memory based on cell structures from a free list. The line 60/61 passage simply discloses that the flow control unit can check traffic shaping status based on knowing where cells were added. There is clearly nothing in these passages that discloses a scoreboard memory tracking flow control status for a plurality of flows, as required by claim 1.

The Examiner contends that *Lyles et al.* "teaches receiving a flow control message and to determine the associated index for it (see col. 10, line 56)." The Applicant submits that this contention is clearly erroneous. The passage simply discloses generating an arrival message that a cell has been received. There is clearly nothing in the passage that discloses a flow control message, as required by claim 1

The Examiner contends that *Lyles et al.* teaches "the flow control status is updated based on the received flow control message (see 'determined', col. 10, lines 64-65; col. 11, lines 4-6)". The Applicant submits that this contention is clearly erroneous. Initially, the applicant points out that *Lyles et al.* do not disclose flow control messages (see above). Both passages simply disclose determining whether to queue the cell in the data path, control path or both and has

nothing to do with flow control messages, or flow control status, let alone updating the flow control status based on flow control messages, as required by claim 1.

For at least the reasons discussed above, the Examiner has failed to establish a prima facie case of anticipation as each and every element and each and every relationship is clearly not disclosed by L*yles et al.* Therefore, the Applicant submits that claim 1 is clearly patentable over *Lyles et al.* Claims 2-6, 8-10 and 13 depend from claim 1and are therefore submitted to be patentable over *Lyles et al.* for at least the same reasons discussed above with respect to claim 1 and for the further features recited therein.

For example, claim 5 indicates that the updater includes a comparator to compare the received flow control message with the flow control status maintained in the scoreboard memory. The Examiner contends that *Lyles et al.* "teaches updater included a comparator ('recognizer'; col. 10, line 62) to compare received flow control message and updating ('determine'; col. 10, line 64) the flow control status maintained in the memory device based on the comparison". The Applicant submits that the Examiners contention is erroneous. These passages simply state that an OAM/RM recognizer 57 can identify control cells and determine where they should be queued. There is clearly no disclosure or suggestion of flow control messages, a scoreboard memory keeping track of the flow control status, let alone comparing a received flow control message to a status stored in the scoreboard memory, as required by claim 5. Claim 5 is submitted to be patentable over *Lyles et al.* for at least this additional reason.

The Applicant respectfully submits that the rejection of claims 1-6, 8-10, and 13 should accordingly be withdrawn.

Independent claim 14 is directed to a flow control hub. The hub includes a scoreboard memory device to maintain flow control status for a plurality of flows, wherein each of the flows is identified by an associated index. A message generator to generate a flow control message for a particular flow based on the flow control status maintained in said scoreboard memory device for the particular flow. A selector selects the particular flow. The Applicant submits that *Lyles et al.* do not disclose each and every element and relationship of the hub recited in claim 14. For example, *Lyles et al.* clearly do not disclose a scoreboard memory device to maintain flow control status or a message generator to generate flow control messages from the flow control

status stored in the memory, as required by claim 14. In fact as noted above with respect to claim 1, the Applicant submits that *Lyles et al.* has nothing to do with flow control messages for controlling the flow of data for specific flows or flow control hubs to manage the delivery of the flow control messages.

The Examiner's rational for *Lyles et al.* disclosing a scoreboard memory is that same as that provided with respect to claim 1. The Applicant respectfully submits that the Examiner's rationale is erroneous for at least the reasons addresses above with respect to claim 1. It appears that the Examiner contends that *Lyles et al.* discloses the message generator as it "teaches the 'cell flow control unit 55' which sends a message for a particular flow based on the status (see col. 11, lines 1-4)". The Applicant respectfully submits that the Examiner's contention is erroneous. This passage simply discloses that the cell flow control unit 55 sends an "addCell" message to a queue control unit 58 when a cell is added to memory. This clearly has nothing to do with generating a flow control message based on flow control status maintained in the scoreboard memory, as required by claim 14.

For at least the reasons discussed above, the Examiner has failed to establish a prima facie case of anticipation as each and every element and each and every relationship is clearly not disclosed by L*yles et al.* Therefore, the Applicant submits that claim 14 is clearly patentable over *Lyles et al.* Claims 15-18 depend from claim 14 and are therefore submitted to be patentable over *Lyles et al.* for at least the same reasons discussed above with respect to claim 14 and for the further features recited therein. The Applicant respectfully submits that the rejection of claims 14-18 should accordingly be withdrawn.

Independent claim 19 is directed to a method including maintaining a flow control status for a plurality of flows in a memory device, wherein each of the flows is identified by an associated index. A flow control message is generated for a particular flow based on the flow control status maintained in the memory device for the particular flow. The particular flow is selected.

The Applicant submits that claim 19 is patentable over *Lyles et al.* for at least similar reasons to those discussed above with respect to claim 14. Claims 20-22 depend from claim 19 and are submitted to be patentable for at least the same reasons discussed with respect to claim

19 and for the further features recited therein. The Applicant respectfully submits that the rejection of claims 19-22 should accordingly be withdrawn.

Independent claim 23 is directed to a method including maintaining a flow control status for a plurality of flows in a memory device, wherein each of the flows is identified by an associated index. A flow control message is received and a determination is made of an associated index for the received flow control message. The flow control status maintained in the memory device is updated based on the received flow control message.

The Applicant submits that claim 23 is patentable over *Lyles et al.* for at least similar reasons to those discussed above with respect to claim 1. Claims 24, 25, 27-29, and 31 depend from claim 23 and are submitted to be patentable for at least the same reasons discussed with respect to claim 23 and for the further features recited therein. The Applicant respectfully submits that the rejection of claims 23-25, 27-29 and 31 should accordingly be withdrawn.

Independent claim 32 is directed to a store and forward device that includes a plurality of Ethernet cards. The Ethernet cards include a plurality ingress ports to receive data from external sources and transmit the data based on flow of the data and a plurality of egress ports to receive data from at least a subset of the plurality of flows. Each ingress port has a plurality of ingress queues associated with a plurality of flows. Transmission of data from a particular queue is controlled at least in part by a flow control status associated with the queue. Each egress port has an egress queue for holding the data prior to transmission. Each egress queue issues flow control messages based at least in part on capacity of the egress queue. The device also includes a backplane to connect the plurality of Ethernet cards together. A flow control hub receives flow control messages, maintains a flow control status for each flow based on the received flow control messages, selects next flow to receive flow control message, and generates and forwards flow control message to queue associated with the next flow.

The Applicant submits that claim 32 is patentable over the cited reference for reasons similar to those addressed above. Claims 33 and 34 depend from claim 32 are therefore submit to be patentable for at least the same reasons and for the further features recited therein. Accordingly, the Applicant submits that the Examiner should withdraw the rejection.

§103 Rejection of the Claims

Claims 7 and 26 were rejected under 35 USC § 103(a) as being unpatentable over *Lyles et al.* in view of *Davies et al. (U.S. Patent 5,819,111).* The Applicant respectfully traverses the rejection.

Claim 7 depends from claim 1. The Examiner has not relied on *Davies et al.* for disclosing features of claim 1 that were deficient in the teachings of *Lyles et al.* The Applicant submits that *Lyles et al.* do not disclose or suggest the deficiencies in *Lyles et al.* Accordingly, claim 7 is clearly patentable over the cited references.

Moreover, the Applicant submits that *Lyles et al.* do not disclose or suggest an updater making no changes to the flow control status if index has same flow control status as received flow control message, as required by claim 7. The Examiner contends that "*Davies et al.* teaches a flow control (see Title) system where if a buffer is not full, the *flow control state* variable is *unchanged* (see col. 8, lines 5-13)". The Applicant submits that even if the Examiner's contention regarding what *Lyles et al.* teaches is correct that it has nothing to do with the features of claim 7. That is, the passage the Examiner refers to discusses not changing a flow control status is a buffer is not full. As the system is checking to see if a buffer is empty it clearly does not disclose or suggest determining if a flow control status in a flow control message is the same as the flow control status in memory, and making no changes if they are the same. For at least this additional reason, the Applicant submits that claim 7 is patentable over the cited references.

Additionally, the Applicant submits that the Examiner has not provided sufficient motivation for combining the references as he has not pointed to any motivation in either reference for this combination.

The Applicant respectfully request that the rejection of claim 26 should be withdrawn.

Claim 26 depends from claim 23. The Examiner has not relied on *Davies et al.* for disclosing features of claim 23 that were deficient in the teachings of *Lyles et al.* The Applicant submits that *Lyles et al.* do not disclose or suggest the deficiencies in *Lyles et al.* Accordingly, claim 26 is clearly patentable over the cited references.

Additionally the Applicant submits that claim 26 is further patentable over *Lyles et al.* for at least similar reasons to those discussed above with respect to claim 7. The Applicant respectfully submits that the rejection of claims 26 should accordingly be withdrawn.

Claims 11-12 and 30 were rejected under 35 USC § 103(a) as being unpatentable over *Lyles et al.* The Applicant respectfully traverses the rejection.

Claims 11 and 12 depend from claim 1. These claims are submitted to be patentable for at least the reasons advanced above with respect to claim 1 and for the further features recited therein. For example, the Examiner acknowledges that *Lyles et al.* do not teach a flow control message that is a broadcast message but contends that it would be obvious that since a message is transmitted. The Applicant respectfully submits that the Examiner's contention is erroneous. A broadcast message is one that is transmitted to multiple locations and the Examiner has provided no disclosure or suggestion of such.

With respect to claim 12, the Examiner simply contends that the reference teaches updating flow control messages and does not address all flow control messages associated with the broadcast message, as required by claim 12. Additionally, as previously discussed with respect to other rejections *Lyles et al.* do not disclose or suggest flow control messages. The passage the Examiner refers to simply discloses that an OAM/RM recognizer 57 can identify control cells and determine where they should be queued.

Claims 11 and 12 are patentable over the cited reference for at least these additional reasons. The rejection of claims 11 and 12 accordingly should be withdrawn.

Claim 30 depends from claim 23. These claims are submitted to be patentable for at least the reasons advanced above with respect to claim 23 and for the further features recited therein and reasons similar to those advanced above with respect to claims 11 and 12. The Applicant respectfully submits that the rejection of claim 30 should accordingly be withdrawn.

Claims 35 and 36 were added and are submitted to be patentable for at least reasons similar to those discussed above.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (215-230-5511) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-3228

Respectfully submitted,

HSUAN-WEN WANG ET AL.

By their Representatives,

Customer Number 46147
Telephone Number 215-230-5511

Date 8/8/05

By _____
Douglas J. Ryder
Reg. No. 43,073

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O.Box 1450, Alexandria, VA 22313-1450, on this 8 day of August, 2005.

Chris Hammond

Name

Chris Hammond

Signature